

AllShield Blue

FM Approved fire safety for your flat roof

The AllShield Blue complies with the FM 4482 non-combustible roof maintenance coating and meets the increasingly stringent insurance requirements for fire safety on flat roofs. By installing AllShield Blue on a roofing material, the roof is also made fireproof for a PV system.



AllShield Blue has fire class A1, which means that PVC/TPO/EPDM and bitumen roofing performs better than the guidelines of NEN6063:2015 for the complete roof construction and fully complies with NEN 7250:2021 (under development).

FM 4482 Approved, Class 1:

FM approvals has extensively tested the AllShield Blue at the Test Center in Chepachet, Rhode Island, USA. The test set-up was carried out on FM approved materials to get a certified roof structure in the ROOFNav. The AllShield Blue coating has prevented underlying materials from igniting in all tests and thus achieves the highest Class 1.

Key benefits of AllShield Blue:

- Fire class A1, tested according to NEN 13501-1, NEN 1716 at Efectis
- Tested at Tronet by KIWA-BDA testing, according to the NEN7250:2021 (under development)
- Tested on an EPS insulation layer; no fire under the coating, no spread of fire above the coating, slight melt away EPS directly under the fire
- No fire energy from roofing or insulation materials added to the original fire

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Uninsurable roofs with PV system buildings will be insurable:

- Lightweight 6.0kg/m² calculation weight, therefore uniquely suitable for light roof constructions
- Easy and fast installation – by certified applicators
- Suitable for existing and new roofs that are still waterproof
- Suitable for all types of roofing: bitumen, TPO, PVC (no EPDM)

Durable, eco-friendly, reusable:

- Based on mineral raw materials
- PFAS-free
- Large carbon footprint
- Fully reusable

Planning:

- To be applied in the period from April to October
- Weather dependent
- With a team of 4 people up to 450m² per day

Application on new and existing roofs:

To be applied to waterproof roofing where the primer adheres. The slope of the roof must be such that there are no potholes and puddles in the existing situation

Existing roofs:

If a roof is suitable for the AllShield Blue, the existing roofing and insulation do not need to be removed. The AllShield Blue can be applied directly to the existing roofing by means of an adhesion primer. In this way, a fire-safe roof is obtained, without an open roof situation. In the case of an existing bitumen roof, the AllShield Blue will temporarily and depending on the age of the existing roof allow bitumen oils to pass through and show brown stains, these disappear over time and have no adverse effect on the effect of the coating.

Tested NEN7250:2021 (under development) at Tronet with supervision Kiwa-BDA testing:

The test results show that the roofing and insulation do not catch fire, and that the fire is only limited to the PV panel itself and the adjacent panel. The fire caused by the gas burner spreads in the panel which goes out after turning off the gas burner under the Pv panel. In the case of underlying PIR/PUR insulation, no fire has started and the PIR/PUR is only slightly charred at the locations of the source of the fire. The insulation or roofing provided little to no energy to the fire, preventing it from spreading to adjacent rows of PV panels. This keeps the fire manageable and easier to extinguish.

Conclusion:

The Allshield Blue acts as an effective fire-resistant layer, significantly reducing or eliminating the risk of fire spreading. Thanks to the unique properties of the AllShield Blue, even a lightly constructed roof can be equipped with a PV system in a fireproof manner. As a result, roofs of buildings that would otherwise not be suitable for PV installations can now be equipped with solar panels in a fire-safe and efficient manner.

Photos of the fire tests FM 4482 tests:

Testing inclination of 5° and inclination angle of 22.5°, suitable for all roof surfaces up to 15°



FM 4482: no fire under the coating with TPO, PVC, and bitumen: class 1

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FM 4470, custom test with PV panels:

In preparation for a new standard with accompanying test setup of FM for roofs with PV systems, AllShield Blue was tested 2x with a PV setup in accordance with the current FM4470. This standard is for new roofs without a PV setup. In both test moments, the FM4470, now with the PV panels as an extra, was achieved for Class 1, less than 6ft, or less than 1.80m1.

FM 4470 with AllShield Blue + PV (10min): Class 1



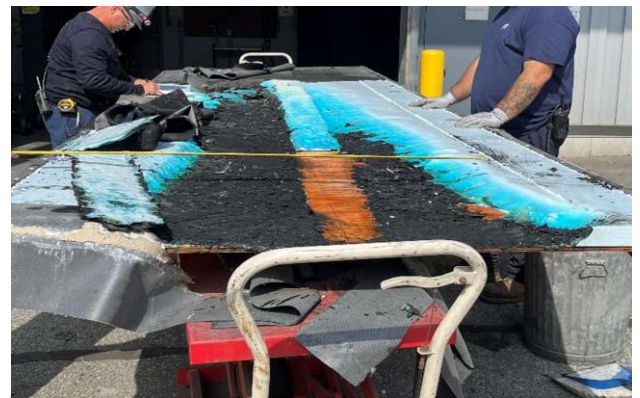
Without AllShieldBlue + PV (3:20min): Fail



with AllShield Blue: XPS melted, roofing intact



No AllShield Blue: PVC and XPS on fire



With AllShield Blue and PIR



without AllShield



AllShield Blue coating intact

Minimal charring

AllShield Blue General information

Composition:	Glass fiber-reinforced AllShield Blue coating
Quality:	Fire class A1 – Non-combustible materials
Properties:	Chemically inert
Expansion:	< 0.1mm/m1
PPE:	Standard Personal Protective Equipment
Application:	To be applied by a certified AllShield Coatings applicator
Thickness:	3 mm, +/- 10%
Weight:	4.8 kg/m ² , +/- 10% Calculated weight: 6.0 kg/m ²
Delivery:	IBC per 1000 liters, including component A & B, fiberglass fleece, and primer

Adhesion via primer:

AllShield Blue is applied to the roofing after the primer has been applied.

Seamless installation on roofing:

AllShield Blue is installed seamlessly without overlaps.

WindUp lift:

AllShield Blue has been tested for wind uplift at KIWA: 22-L-0237/1

UV protection:

No UV impact on the coating; protects the existing roofing.

Reuse/Recycling:

AllShield Blue can be removed and recycled.

Lifespan:

Tested for a lifespan of 50 years or more.

Curved roof surfaces:

AllShield Blue can be applied on roofs with a maximum slope of 15 degrees (flat roof).
For steeper slopes, application is subject to evaluation based on the specific situation.

Load distribution properties:

For medium-hard insulation, AllShield Blue provides weight distribution properties. A ballasted PV system can now be installed.

Roof detail adjustments:

At 3 mm thickness, AllShield Blue prevents modifications to roof and connection details, upstands, and drains.